# TBD01 – (B2.1-B2.3) Building Dipeptide and Polypeptide Chains

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the building block for proteins? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What type of reaction occurs during the formation of proteins? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the name of the bond formed in making proteins? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What material is produced (or given off) when forming proteins? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Draw the general formula of an amino acid (use R as the functional group):
6. Draw the following amino acids:
   1. Alanine
   2. Arginine
   3. Asparagine
7. Explain what a dipeptide and a polypeptide are:
8. There are two ends to any polypeptide. What are those ends and how are they to be oriented on your paper?
9. What is meant by essential and non-essential amino acids?
10. What is a complete and a non-complete protein?
11. Briefly describe the three functions of proteins in the body:
    1. Zwitterion
    2. Buffer Action
    3. Isoelectric Point

Take the following amino acids (which are given in the powerpoint, and in the Chemistry Data Booklet (19.2)) and form either the dipeptide or polypeptide chains. **AND give the amino acid sequence using the 3 letter abreviations (ex. #1 Glu-Gly)**

1. Glutamic Acid + Glycine
2. Lysine + Argenine
3. Cysteine + Alanine
4. Tryptophan + Valine + Methionine
5. Proline + Serine + Threonine
6. Isoleucine + Glutamine + Histidine
7. Aspartic Acid + Asparagine + Leucine + Phenylalanine + Tyrosine